ABSTRACT OF THE DISCLOSURE

An infrared communications system includes a multi-beam transmitter for producing an array of diffusing spots upon a reflecting surface, and a receiver comprising a plurality of receiving elements, where each receiving element has an independent field of view that is in line of sight of at least one of said diffusing spots. The array may be in the form of a regular grid, and the grid of diffusing spots may be formed via the emission from the transmitter of a plurality of collimated beams of equal intensity. The transmitter may include a light source, collimating optics, and a spot array generator, and each of the receiving elements may include a band-pass filter, a concentrator and a photodetector.